

Third West Weekly Report Shepherd, Michael

1241189 - R8 SDMS

Joyce Ackerman, 'Craig Barnitz (cbarnitz@utah.gov)' 02/15/2012 02:22 PM

Hide Details

From: "Shepherd, Michael" < Michael. Shepherd @PacifiCorp.com>

To: Joyce Ackerman/R8/USEPA/US@EPA, "'Craig Barnitz (cbarnitz@utah.gov)" <cbarnitz@utah.gov>

8 Attachments











Weekly Reports 02-06 to 02-11-12.pdf Third West Weekly Log 2011-06.pdf 229208-1.pdf 229278-1.pdf 229386-1.pdf







229492-1.pdf 229595-1.pdf 229701-1.pdf

Joyce & Craig,

Attached are the reports for the week of February 6, 2012.

We had a positive hit of chrysotile on Saturday last week, please see attachment 229701-1 for more detail.

Please let me know if you have any questions.

Thanks,

Mike Shepherd **Project Manager Rocky Mountain Power - Major Projects** 801.220.4584 Office 801.631.1310 Cell 801.220.2797 Fax michael.shepherd@pacificorp.com





	<u>DAILY CHECKLIST</u>
DATE:	02/06/11
<u>General</u>	
NA	Work area Health and Safety Inspection
NA	Review and if necessary update Activity Hazard Analyses (AHA) based on planned site
1 17 1	activities for the day
NA .	Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
NA	Site hazard and safety instruction for all first time employees, contractors or visitors
NA	Complete Employee Meeting Record Form B (where applicable)
NA	Document required Respirator Training completion with Form H
NA .	Record times and numbers of dump tmcks and trailers as they leave the site with contaminated material.
NA	Confirm return of waste material manifest documents for each load with site manager.
NA Comp	lete all CSHASP Forms (for applicable activities planned for that day)
NA ¹	Illness/Injury Report Form A
NA	Site-Specific Training Record Form C
NA	Hot Work Permit Form D
NA	Trench/Evacuation Permit Form E
NA	Combined Space Entry Permit From F
lacksquare	Exclusion zone operations are practiced as instructed.
	☐ Decontamination unit is working properly.
	✓ Workers are using decontamination unit as instructed.
	☑ Workers use personal protective equipment properly.
\square	Set air samples at cardinal compass points around exclusion zone. Check
	throughout the day to ensure proper operation.
	Observe control measures for dust and fugitive materials i.e. watering excavation
_	sites and track out prevention.
☑	Review sign-in/sign-out log throughout and at the end of the workday. Secure the site at the end of the workday
Sampling	· · · · · · · · · · · · · · · · · · ·
NA ☑	Soil Confirmation sampling for any newly excavated areas Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusion zone
NA ·	Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
NA	Digitally photograph each sample location and at any place field sampling personnel determined necessary





	Electronically file photo files into the on-site database
	Complete Field Documentation
	Field Sample Data Sheets (FSDS)
	Logbook
	On-site computer database
abla	Label each sample media with a unique number
abla	Seal sample(s) in zip lock plastic bags
\square	Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
☑	 Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
7	Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
	Electronically file sample reports into on-site database



Project: 3rd West Sub Station	Date: 02/06/12
Location: 3 rd West, 1 st South, SLC	Job Number:
Survey Conducted By: Justin Kargis	Title:

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.	-		х	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			х	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	x		×	
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			х	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			х	å
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.652 (a)	Excavation protective systems; examination by competent person when less than 5 feet in depth.		V	х	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.			x	
1926.20 (b)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.		21 S	x	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			х	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			х	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.			x	
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	х	100		

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.			х	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			х	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			х	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			х	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			х	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	х			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.			х	
1926.102 (a) (1)	Eye and face protection shall be provided.	x			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	x			
1926.350 (a)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			х	

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.		.*	Х	
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	х			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			x	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.	x			9
1926.451 (a)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	x			
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			х	
1926.404 (f) (7)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			
1926.556 (b)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.			х	
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			x	

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.	х			
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	х			
1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			x	
1926.550 (b)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			х	

Exclusion zone active.

Newman removed truck wash platforms from EZ then hauled them away.

R&R discussed with Newman the need for watering down native soil excavations based on weather coming in the week. No excavation of native soil done today.

Newman continued backfilling and raising the area south of the 2nd transformer pad.

CVE electricians continued working in the new control building.





	<u>DAILY CHECKLIST</u>
DATE:	02/07/11
Canara	1
Genera NA	Work area Health and Safety Inspection
NA NA	Review and if necessary update Activity Hazard Analyses (AHA) based on planned site
1471	activities for the day
NA	Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
NA	Site hazard and safety instruction for all first time employees, contractors or visitors
NA	Complete Employee Meeting Record Form B (where applicable)
NA	Document required Respirator Training completion with Form H
NA	Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.
NA .	Confirm return of waste material manifest documents for each load with site
NA Cor NA NA NA NA VI	Site-Specific Training Record Form C Hot Work Permit Form D Trench/Evacuation Permit Form E
<u>ସ</u>	Set air samples at cardinal compass points around exclusion zone. Check throughout the day to ensure proper operation. Observe control measures for dust and fugitive materials i.e. watering excavation sites and track out prevention. Review sign-in/sign-out log throughout and at the end of the workday. Secure the site at the end of the workday
<u>Sampli</u>	ng
NA ☑ NA	Soil Confirmation sampling for any newly excavated areas Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusion zone Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil
NA NA	removal Digitally photograph each sample location and at any place field sampling personnel
2 12 2	determined necessary





	Electronically file photo files into the on-site database
$\overline{\square}$	Complete Field Documentation
$\overline{\mathbf{A}}$	Field Sample Data Sheets (FSDS)
	Logbook
$\overline{\mathbf{A}}$	On-site computer database
$\overline{\mathbf{Q}}$	Label each sample media with a unique number
	Seal sample(s) in zip lock plastic bags
Ø	Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
$\overline{\mathbf{V}}$	Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental
•	Samples
	Review and disseminate sample results as received from the laboratories to Project
Ø	Manager and other appropriate managers and employees Electronically file sample reports into on-site database



Project: 3rd West Sub Station	Date: 02/07/12
Location: 3rd West, 1st South, SLC	Job Number:
Survey Conducted By: Justin Kargis	Title:

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			х	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.	160		x	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	х			2
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			х	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			x	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.652 (a)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			х	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.			x	
1926.20 (b)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			x	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.			х	
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	х		٥	

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.			х	,
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.	u	z.	х	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			х	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			х	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	x			3
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.		, ,	X	
1926.102 (a) (1)	Eye and face protection shall be provided.	х		1	
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	x			
1926.350 (a) (9)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			X	

Standard	Title	In Compliance	Out of Compliance	D N/A	Corrective Action Taken and Date
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			X	
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	х			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			х	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.	х	2		
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	x			
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	
1926.404 (f)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			
1926.556 (b) (2)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.			х	
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			х	

Standard	Title	In Compliance	Out of Compliance	D N/A	Corrective Action Taken and
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1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.	х			
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x			
1926.451 (a)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			х	5
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			x	

Exclusion zone active.

Newman/CVE set 46 kV vaults east of the new control building. Newman began backfilling around these vaults with fill dirt.

Newman continued backfilling and raising area south of the 2nd transformer pad.

Somewhat dusty conditions today though no native soil excavation was done.

CVE civil crew worked on forming 2nd transformer containment walls.





HEALTH SAFETY MANAGER (HSM)

DAILY CHECKLIST

	DAIL I CHECKLIST
DATE:	02/08/11
General	
NA	Work area Health and Safety Inspection
NA	Review and innecessary update Activity Hazard Analyses (AHA) based on planned site
* 11.2	activities for the day
NA	Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
NA	Site hazard and safety instruction for all first time employees, contractors or visitors
NA	Complete Employee Meeting Record Form B (where applicable)
NA	Document required Respirator Training completion with Form H
NA	Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.
NA	Confirm return of waste material manifest documents for each load with site manager.
NA Com	plete all CSHASP Forms (for applicable activities planned for that day)
NA	Illness/Injury Report Form A
NA	Site-Specific Training Record Form C
NA	Hot Work Permit Form D
NA	Trench/Evacuation Permit Form E
NA	Combined Space Entry Permit From F
\square	Exclusion zone operations are practiced as instructed.
	☐ Decontamination unit is working properly.
	☑ Workers are using decontamination unit as instructed.
	☑ Workers use personal protective equipment properly.
\square	Set air samples at cardinal compass points around exclusion zone. Check
	throughout the day to ensure proper operation.
	Observe control measures for dust and fligitive materials i.e. watering excavation
_ `	sites and track out prevention.
☑	Review sign-in/sign-out log throughout and at the end of the workday.
	Secure the site at the end of the workday
Samplin	g
NA	Soil Confirmation sampling for any newly excavated areas
$ \overline{\square} $	Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusion zone
NA	Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
NA	Digitally photograph each sample location and at any place field sampling personnel





☑		Electronically file photo files into the on-site database
☑		Complete Field Documentation
	\square	Field Sample Data Sheets (FSDS)
	\square	Logbook
	\square	On-site computer database
		Label each sample media with a unique number
		Seal sample(s) in zip lock plastic bags
Ø		Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
Ⅵ		Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
\square		Review and disseminate sample results as received from the laboratories to Project
		Manager and other appropriate managers and employees
		Electronically file sample reports into on-site database





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DATE:	02/08/11
<u>General</u> NA	Works and Hooks and Cofety Inspection
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	contaminated material.
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	manager.
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<u>Sampling</u>	
DT 4	
NA ☑	Soil Confirmation sampling for any newly excavated areas
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11/1	removal
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$\overline{\mathbf{J}}$	Complete Field Documentation
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Project: 3rd West Sub Station	Date: 02/08/12
Location: 3rd West, 1st South, SLC	Job Number:
Survey Conducted By: Justin Kargis	Title:

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			х	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			x	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	х			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			х	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.	,		x	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

Standard	Title	In Compliance	Out of Compliance	D N/A	Corrective Action Taken and Date
1926.652 (a)	Excavation protective systems; examination by competent person when less than 5 feet in depth.		ď	x	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.			х	
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			х	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			х	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.	1.0		х	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.			x	
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
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1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.	=		x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	Z
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	x			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.			х	
1926.102 (a) (1)	Eye and face protection shall be provided.	X v			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	x			
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Standard	Title				Date
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1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	х			*
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			х	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.	x		ā	
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	x			
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			х	
1926.404 (f)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			
1926.556 (b) (2)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.			x	
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			х	

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.	x	da		
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x	2		
1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			х	
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			x	

Exclusion zone active.

Newman backfilled and compacted around 46kV vaults and continued lifting area south of 2nd transformer. Had to modify EZ somewhat and cover native soil to accommodate work in the north arm of the yard.

CVE civil crew poured oil containment walls for 2nd transformer.

CVE electricians continued wiring work in new control building.

Started to rain in the afternoon.





5 A TEE	DAILY CHECKLIST
DATE:	02/09/11
<u>General</u>	
NA	Work area Health and Safety Inspection
NA	Review and if necessary update Activity Hazard Analyses (AHA) based on planned site
	activities for the day
NA	Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior
	to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
NA	Site hazard and safety instruction for all first time employees, contractors or visitors
NA	Complete Employee Meeting Record Form B (where applicable)
NA	Document required Respirator Training completion with Form H
NA	Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.
NA	Confirm return of waste material manifest documents for each load with site manager.
NA Comp	elete all CSHASP Forms (for applicable activities planned for that day)
NA	Illness/Injury Report Form A
NA	Site-Specific Training Record Form C
NA	Hot Work Permit Form D
· NA	Trench/Evacuation Permit Form E
NA	Combined Space Entry Permit From F
☑ .	Exclusion zone operations are practiced as instructed.
	☐ Decontamination unit is working properly.
	✓ Workers are using decontamination unit as instructed.
	✓ Workers use personal protective equipment properly.
\square	Set air samples at cardinal compass points around exclusion zone. Check
	throughout the day to ensure proper operation.
	Observe control measures for dust and fugitive materials i.e. watering excavation
_	sites and track out prevention.
☑	Review sign-in/sign-out log throughout and at the end of the workday.
☑	Secure the site at the end of the workday
Sampling	, 2
NA	Soil Confirmation sampling for any newly excavated areas
Ø	Stationary Air Monitoring during contaminated soil removal around the perimeter of the
	exclusion zone
NA ·	Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil
	removal
NA	Digitally photograph each sample location and at any place field sampling personnel determined necessary





Electronically file photo files into the on-site database
Complete Field Documentation
Field Sample Data Sheets (FSDS)
Logbook
On-site computer database
Label each sample media with a unique number
Seal sample(s) in zip lock plastic bags
Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
Electronically file sample reports into on-site database



Project: 3rd West Sub Station	Date: 02/09/12			
Location: 3 rd West, 1 st South, SLC	Job Number:			
Survey Conducted By:	Title:			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			х	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			x	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	х			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.		IS.	х	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			х	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	х			

			Out of Compliance	N/A	Corrective Action Taken an
Standard	Title				Date
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			x	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.			x	-
1926.20 (b)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			x	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			х	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			х	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.			х	
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.	8		x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			х	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	х			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a) (4)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.			х	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.	2		х	¥
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	х			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	,
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	x			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.			х	
1926.102 (a) (1)	Eye and face protection shall be provided.	x			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	x			
1926.350 (a) (9)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			х	

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.		ă a	Х	
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			х	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.	x			
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	x			
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	,
1926.404 (f)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	х			
1926.556 (b) (2)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.			х	
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			х	

Standard	Title	In Compliance	Out of Compliance	O N/A	Corrective Action Taken and Date
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.	x			
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x		-	,
1926.451 (a)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			х	
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			х	

Exclusion zone active.

Newman continued backfilling and compaction of area around 46 kV vaults ad lifting area south of 2nd transformer.

CVE civil crew formed rebar for transformer pedestal.

CVE electricians continued wiring work in new control building.

Mostly dry weather conditions. Light sprinkles for in the early afternoon that did not wet the ground.





	DAILY CHECKLIST
DATE:	02/10/11
<u>General</u>	
NA	Work area Health and Safety Inspection
NA	Review and if necessary update Activity Hazard Analyses (AHA) based on planned site
	activities for the day
NA	Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
NA	Site hazard and safety instruction for all first time employees, contractors or visitors
NA	Complete Employee Meeting Record Form B (where applicable)
NA	Document required Respirator Training completion with Form H
NA	Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.
NA	Confirm return of waste material manifest documents for each load with site manager.
NA Comp	lete all CSHASP Forms (for applicable activities planned for that day)
NA	Illness/Injury Report Form A
NA	Site-Specific Training Record Form C
NA	Hot Work Permit Form D
NA	Trench/Evacuation Permit Form E
NA	Combined Space Entry Permit From F
	Exclusion zone operations are practiced as instructed.
	☐ Decontamination unit is working properly.
	☑ Workers are using decontamination unit as instructed.
	☑ Workers use personal protective equipment properly.
\square	Set air samples at cardinal compass points around exclusion zone. Check
	throughout the day to ensure proper operation.
•	Observe control measures for dust and fugitive materials i.e. watering excavation
17 1	sites and track out prevention.
☑	Review sign-in/sign-out log throughout and at the end of the workday. Secure the site at the end of the workday
Sampling	•
<u> </u>	.
NA ☑	Soil Confirmation sampling for any newly excavated areas Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusion zone
NA	Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soi removal
NA	Digitally photograph each sample location and at any place field sampling personnel





Δ	Electronically file photo files into the on-site database	
	Complete Field Documentation	
	Z Field Sample Data Sheets (FSDS)	
	Z Logbook	
	On-site computer database	
	Label each sample media with a unique number	
abla	Seal sample(s) in zip lock plastic bags	
Ø	Complete and include Chain of Custody (COC) Form required for shipping of samples t appropriate laboratory	to
Ø	Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmenta Samples	.1
Ø	Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees	
abla	Electronically file sample reports into on-site database	



Project: 3rd West Sub Station	Date: <u>02/10/12</u>				
Location: 3rd West, 1st South, SLC	Job Number:				
Survey Conducted By: <u>Justin Kargis</u>	Title:				

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			x	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	х			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.	8		х	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			x	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

Standard	Title	In Compliance	Out of Compliance	□ N/A	Corrective Action Taken and Date
1926.652 (a)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			х	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.			x	
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			х	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			х	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.			x	
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	х			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a) (4)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.			х	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			x	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x	×		
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	x			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.			х	
1926.102 (a) (1)	Eye and face protection shall be provided.	x			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	x			
1926.350 (a)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			x	

ø

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			X	
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x			*
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.		,	х	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.	x			
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	x			
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			х	
1926.404 (f)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	х			
1926.556 (b) (2)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.			х	
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			х	

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.	х	-		
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x			
1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			х	
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.		×	х	

Comments:

Exclusion zone active.

Discussions were conducted between R&R, Cache Valley Electric, and Rocky Mountain Power addressing procedures and practices pertaining to environmental items at the site. As of today, R&R will communicate directly with Scott Collard from CVE regarding environmental issues to be resolved.

R&R discussed continued water application to excavations, controlling dust, and preventing track out of contaminated material.

Newman continued backfilling and compaction around 46 kV vaults.

CVE civil crew continued forming rebar for 2nd transformer.



3rd West Substation Site Project Safety Audit

Project: 3rd West Sub Station	Date: 02/11/12
Location: 3rd West, 1st South, SLC	Job Number:
Survey Conducted By: Justin Kargis	Title:

•		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			х	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.		1	x	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	х			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			х	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			x	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.652 (a)	Excavation protective systems; examination by competent person when less than 5 feet in depth.	ue?		х	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.			х	
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			х	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.	,		x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			х	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.		20	x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.			х	
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			х	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			х	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	х			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.		2	х	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			x	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.	3		х	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	x			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.	ė.		x	
1926.102 (a) (1)	Eye and face protection shall be provided.	x	8		
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	x			
1926.350 (a) (9)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			х	

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			х	
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	х			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			х	,
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.	х			
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	x			
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	
1926.404 (f)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	х			
1926.556 (b)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.			x	
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			х	

Standard	Title	In Compliance	Out of Compliance	D N/A	Corrective Action Taken and Date
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.	x			
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x			
1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			х	
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			х	

Comments:

Exclusion zone active.

No exclusion zone work done today.

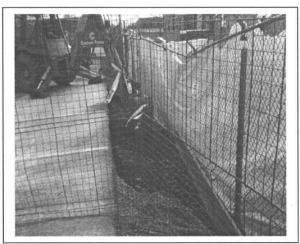
CVE civil crew worked on setting anchor bolts and edge pieces for 2nd transformer.



РНОТО 1



РНОТО 2



РНОТО 3

R & REnvironmental, Inc.
47 West 9000 South, Suite #2, Sandy, Utah 84070
(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:	SCALE:	REVIEWED BY: DCR	
DRAWN BY: JMK	DATE 02/10/12	FILE:	

SITE PHOTOGRAPHS



3rd West Substation "2011 Upgrade Project" Salt Lake City, Utah

•			,			
PROJECT NAME:	Third Wes	st Sub - Rebuild	DATE:	Monda	ay, February 6	5, 2012
PO & Work Order NO. :	30000780	050 / 10035803	MAIN CONT	RACTOR:	Cache Valle	ey Electric
Crew Start Time:	7:00	Crew Stop Time:	17:15	5	Tot Hrs mns:	1 0 :15
FCR Start Time:	6:35	FCR Stop Time:	17:20)	Tot Hrs mns:	10:45
Use military time format 00:00		•			•	
WEATHER CONDITIONS:		Sunny - 23 degr	ees In AM, 45 c	degrees In F	PM	
DESCRIPTION: (work perfe	ormed, general c	omments, instructions to	contractor, # o	of crew me	mbers onsite	.)
EZ and compaction passed, hov addition of the next lift. CVE fab They got the interior walls set ar Electronic techs worked for about chronology of the work at Third Crew = 7, Newman = , R&R =	o crew stripped the to nd completed the ret ut a half day in the n West that could have	ransformer floor and started se bar. CVE electrical crew worke lew control building. Met with N	iting forms and ty d in the new con Nike Shepherd, V	ring rebar for trol building a Ves Holmes	the oil containr and reviewed di and N eil Love to	ment walls. rawings. RMF o review the
			•			
IF WORKING IN ENERGIZE	D SUBSTATION:					*
Dispatcher login, name and time	Gus Montane	ez 0635				
Dispatcher logout, name and tim	ne: Gus Montana	aez 1715				
DISCREPANCIES:			IMMEDIATE C	ORRECTIV	E ACTION TA	AKEN:
	<u> </u>			<u>. </u>		
11/30 - Identified an additional retair	ning wall that is below.	grade and does not show on the	Will excavate to de	termine dimen	neione	
Demo Plan.	ing wan mat is bolow	grade and does not show on the	Will excavate to de	terrific dirier	310113.	
· · · · · · · · · · · · · · · · · · ·						
12/15 - Excavated to locate the 46 k didn't find them. Will try again. Actu			Sent e-mail to Rog	er F.	•	ļ
DELAYS OR LOST TIME EN		deeper man design of flew bank 1				
DEDATO GIVE GOT THIS ET	TOODITIERED.	·		<u> </u>		
						i
						i
•						
EQUIPMENT (working, deli	vered, Idle):			· ·		
CVE fab crew: Portable toilet (2), for wash-down structure, trachoe (3), ke				, crew truck, b	oom truck. Newn	nan: portable
		•				
OSHA Recordable Safety II	ncidents:			Reported	by:	Time:
					<u> </u>	
						



PROJECT NAME:		Third Wes	st Sub - Rebuild		DATE: Tuesday, February 7, 2012						
PO & Work Order NO. :		30000780	050 / 10035803		MAIN CONT	RACTOR :	Cache Valle	y Electric			
Crew Start Time:	. 6	:40	Crew S	Stop Time:	17:15	5	Tot Hrs mns:	10:35			
FCR Start Time:		:30		Stop Time:	17:15		Tot Hrs mns:	10:45			
Use military time format 00:00		.50	1010	Stop Inne.			1001115 111115.	10.43			
ose minuty time format octoo			·								
WEATHER CONDITIONS:			Sunr	ıy - 27 degr	ees in AM, 45 o	legrees In I	PM				
DESCRIPTION: (work perfo											
R&R set up four monitors. Arrive support equipment arrived at 7:3 CVE Electrical crew worked on p the oil containment walls. Newm steel, and started backfilling the Newman = 6, R&R = 1, Wilding	0 and anels an pla 46 kV	set up in part in the new co aced addition	king lot, east of the ontrol building. CV al material in the a	e 46 kV vault E fab crew crea south of	location. Vaults continued forming the 2nd transform	were set bet up the walls ner, dismant	tween 8:30 and s and setting the led some of the	10:30 AM . embeds for old structural			
,				·							
IF WORKING IN ENERGIZE	D SU	BSTATION	:								
Dispatcher login, name and time	:	Barry Nielso	n 0655								
Dispatcher logout, name and tim	e:	Kim Batt 171	15								
DISCREPANCIES:					IMMEDIATE C	ORRECTIV	/E ACTION TA	AKEN:			
				-							
		<u>-</u>									
11/30 - Identified an additional retain Demo Plan	ing wa	II that is below	grade and does not	show on the	Will excavate to de	termine dimer	nsions.				
						•		ŀ			
12/15 - Excavated to locate the 46 kt didn't find them. Will try again. Actu	al dept	th will be much			Sent e-mail to Roge	er F.	,				
DELAYS OR LOST TIME EN	ICOU	NIERED:									
					·			·			
EQUIPMENT (working, deliv	vered	i, idle):									
CVE fab crew: Portable toilet (2), for wash-down structure, trachoe (3), lo	rklift, 1	dumpster, offic				, cr ew tmck, b	oom truck. Newn	nan: portable			
OSHA Recordable Safety In	cida	nte:				Panartad	hv:	J Time:			
COLIA Recordable Salety II	i Ciue	1113.				Reported	 1	Time.			
			-								
· · · · · · · · · · · · · · · · · · ·											



PROJECT NAME:	Third We	est Sub - Rebuild	DATE :	Wednes	day, February	8, 2012
PO & Work Order NO. :	3000078	8050 / 10035803	MAIN CONT	RACTOR :	Cache Valle	y Electric
Crew Start Time:	7:00	Crew Stop Time:	17:25	,	Tot Hrs mns:	10:25
FCR Start Time:	6:43	FCR Stop Time:	16:40)	Tot Hrs mns:	9:57
Use mi/itary time format 00:00					•	
		·				
WEATHER CONDITIONS:		Sunny - 28 degrees i	n AM, Rainy an	d 40 degree	s in PM	
DESCRIPTION: (work perfo						
conduits, grating embeds and growere good. CVE electrical crew area south of the 2nd transformer descrepancies. CVE Electrical	is working on par r and also placed	nels in the control building and p	oulling inter-panel of the 46 kV vi	wiring. Ne wr aults. See co	nan placed bad	kfill in the
IF WORKING IN ENERGIZED						
Dispatcher login, name and time:		on 0643				
Dispatcher logout, name and time	E: Tom ?????	??? 1725				
DISCREPANCIES:		. <u>.</u>	IMMEDIATE CO	ORRECTIV	E ACTION TA	KEN:
Backfilling of 46 kV vaults was perform lifts were not tested. Most tests that was tested to be seen as the second second seen as the second						
complete. Compactive effort on the e			_			1
west by accrox. 2". Newman is now					=	
11/30 - Identified an additional retaini	ng wall that is below	v grade and does not show on the	Will excavate to det	termine dimen	sions.	Ï
. 						-
12/15 - Excavated to locate the 46 kV			Sent e-mail to Roge	er F		
DELAYS OR LOST TIME EN		h deeper than desian of new bank	<u> </u>			
PETVIO OV FOST LIME EN	COUNTERED:					<u>-</u>
EQUIPMENT (working, deliv	vered, idle):		· ·			
CVE fab crew: Portable toilet (2), fortwash-down structure, trachoe (3), loa	klift, 1 dumpster, off			crew truck, bo	oom truck. Newm	nan: portable
OSHA Recordable Safety In	cidents:	"-		Reported I	ov:	 Time:
Table Salety III					''	
					-	



PROJECT NAME:	Third West Sub -	Rebuild	DATE:	Thursd	lay, Februa r y 9	<u>,</u> 2011
PO & Work Order NO. :	3000078050 / 10	0035803	MAIN CONTE	RACTOR :	Cache Valle	y Electric
Crew Start Time: 7	:00	Crew Stop Time:	17:35		Tot Hrs mns:	10:35
	:45	FCR Stop Time:	17:50		Tot Hrs mns:	11:05
Use military time format 00:00	10	TOR OLOP TIME.	17.00		1001111011111101	11.00
Ose minus y time format oo.oo			• .			•
WEATHER CONDITIONS:		Overcast - 28 deg	rees in AM, 40	degrees in	PM	·
DESCRIPTION: (work performed						
R&R set up four monitors. Newman or of the west transfonner. CVE Electrica containment walls, cleaned off the floor concrete vault covers in the west yard Wilding = 1.	al Crew set panels and r and started tying ret	d pulled wire in the nev	v control building. pedestal. Provide	CVE Fab (d elevations	Crew stripped the s to John M ancir	oil oi for the two
	•					
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		,				
		,				
·						.
		<u> </u>				
IF WORKING IN ENERGIZED SU			<u> </u>			· .
Dispatcher login, name and time:	Jim Bowman 0645					
Dispatcher logout, name and time:	Kim Batt 1750					
DISCREPANCIES:	•	· · · · · · · · · · · · · · · · · · ·	IMMEDIATE CO	RRECTIV	E ACTION TA	KEN:
					_	
11/30 - Identified an additional retaining wa	ll that is below grade an	d does not show on the	Will excavate to dete	ermine dimer	nsions.	
Demo Plan.						
					-	
12/15 - Excavated to locate the 46 kV cable			Sent e-mail to Roge	r F.		
didn't find them. Will try again. Actual deor		han desjan of new bank				
DELAYS OR LOST TIME ENCOU	INTERED:		· · · · · · · · · · · · · · · · · · ·			
EQUIPMENT (working, delivered	l. idle):		·			
CVE fab crew: Portable toilet (2), forklift, 1 wash-down structure, trachoe (3), loader, I	dumpster, office trailer,	·		crew truck, b	oom truck. Newm	an: portable
OSHA Recordable Safety Incide	nts:			Reported	by:	Time:



PROJECT NAME:		Third Wes	st Sub - Rebuild		DATE :	Frida	ay, February 9,	2012
PO & Work Order NO. :_		30000780	050 / 10035803		MAIN CONT	RACTOR	: Cache Valle	y Electric
Crew Start Time:	7	7:00	Crew S	Stop Time:	17:15	· ·	Tot Hrs mns:	10:15
FCR Start Time:	6	5:40	FCR	Stop Time:	16:55	5	Tot Hrs mns:	10:15
Use mi/itary time format 00:						<u> </u>		
· · · · · · · · · · · · · · · · · · ·			¥.		•			
WEATHER CONDITIONS	:		Overcast - 3	0 degrees	in AM, Sunny a	ind 50 deg	rees in PM	
DESCRIPTION: (work pe	rforme	d, general c	omme nts, i nstr	uctions to	contractor, # c	of c rew me	embe rs onsit e	.)
R&R set up four monitors. No side. The final 2-3 feet were of delivered several loads of AB the inter-panel wiring and the transformer pedestal and have Newman = 6, R&R = 1, Wildi	compacte C. CVE wiring free e started	ed, but not tes Electrical cres om the YTC ca	sted. They also brow w continued pulling abinets (inside the	oke out conc g wire in the building). C	rete in the area of new control build VE Fab Crew co	f the old cap ing and con mpleted tyin	pacitor banks. Number N	lewman ne majority of ne west
·					·			,
IF WORKING IN ENERGI								
Dispatcher login, name and ti		Jim Bovman						
Dispatcher logout, name and	time:	Kim Batt 171	5		IMMEDIATE O	ODDECTIV	/E ACTION T	N/FN:
DISCREPANCIES:					IMMEDIATE C	URRECII	VE ACTION 12	ANEN:
·								,
11/30 - Identified an additional re Demo Plan.	taining wa	all that is below	grade and does not	show on the	Will excavate to de	termine dime	nsions.	·.
								•
12/15 - Excavated to locate the 4 didn't find them. Will try again. A					Sent e-mail to Rog	er F.		``
DELAYS OR LOST TIME	ENCOL	JNTERED:		·	<u> </u>		·	·····
		·		·				`
EQUIPMENT (working, d	elivered	d, idle):		•				
CVE fab crew: Portable toilet (2) wash-down structure, trachoe (3						, crew truck, t	boom truck. Newn	nan: portable
OSHA Population Safety	· Incid-	nto:	 		<u> </u>	Panartad	l by:	 Time:
OSHA Recordable Safety	y incide	ents:	<u> </u>			Reported	i b y :	nme:
		•						
								



PROJECT NAME:		Third West S	Sub - Rebuild	DATE:	Saturd	ay, February 1	1, 2012
PO & Work Order NO. :		3000078050) / 10035803	MAIN CONT	RACTOR	Cache Valle	y Electric
Crew Start Time:	7	ː:00	Crew Stop Time:	15:10	1	Tot Hrs mns:	8:10
FCR Start Time:	6	:50	FCR Stop Time:	15:15		.Tot Hrs mns:	8:25
Use military time format 00:			r of Cotop Timor	10.10		-, -	0.20
ose minuty unit format os.	00						
WEATHER CONDITIONS	:		Overcas	t - 35 degrees ir	AM,		
DESCRIPTION: (work pe							
R&R set up four monitors. Ne transformer pedestal installing				Fab Crew = 6 , R		ew worked on the	e west
IF WORKING IN ENERGIZ							
Dispatcher login, name and til		Mike Spence 06		•			
Dispatcher logout, name and	ume:	Mike Spence 15	515	DESCRIPTION OF	00050711	/E 4 0 T 1 0 N T 4	
DISCREPANCIES:				IMMEDIATE C	ORRECTIV	E ACTION IA	KEN:
						-	
11/30 - Identified an additional ret Demo Plan.	aining wa	all that is below gra	de and does not show on the	Will excavate to de	termine dimer	nsions.	
•							
12/15 - Excavated to locate the 4 didn't find them. Will try again. A	ctual dept	th will be much dea		Sent e-mail to Roge	er F.		
DELAYS OR LOST TIME	ENCOU	MIEKED:					
EQUIPMENT (working, de	eli Ver ed	d, idle):		*		-	
CVE fab crew: Portable toilet (2) wash-dovm structure, trachoe (3)					crew truck, b	oom truck. Newm	an: portable
OSHA Recordable Safety	Incide	nts:			Reported	by:	 Time:
	11.5.00				oportou	-1.	
							
<u> </u>							





February 8, 2012

Laboratory Code: Subcontract Number: **RES** NA

Laboratory Report:

RES 229208-1

Project # / P.O. #

None Given

Project Description:

3rd West Sub - RMP

David Roskelley R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory Is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer Orr

President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0016

TABLE 1. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 229208-1

Client:

R & R Environmental

Client Project Number / P.O.: None Given

Client Project Description: Date Samples Received:

3rd West Sub - RMP

Analysis Type:

February 7, 2012 TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

February 7, 2011 - February 8, 2011

Client ID Number	Lab ID Ni	umber	Area Analyzed	Air Volume Sampled	Number of Asbestos Structures Detected	Analytical Sensitivity	Asbestos Concentration	Filter Loading
			(mm²)	(L)		(s/cc)	(s/cc)	(s/mm²)
3W-020612 SW	EM	860818	0.1000	950	· ND	0.0041	BAS	BAS
3W-020612 NW	EM	860819	0.1000	950	ND	0.0041	BAS	BAS
3W-020612 NE	EM	860820	0.1000	948	ND	0.0041	BAS	BAS
3W-020612 SE	EM	860821	0.0900	950	ND	0.0045	BAS	BAS

NA = Not Analyzed

ND = None Detected

BAS = Below Analytical Sensitivity

Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester

Filter Diameter = 25 mm

Effective Filter Area = 385 sq mm

DATA QA

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE II. SUMMARY OF ANALYTICAL DATA

RES Job Number:

RES 229208-1

Client:

R & R Environmental

Client Project Number / P.O.: None Given

Client Project Description:

3rd West Sub - RMP

Date Samples Received:

February 7, 2012

Analysis Type:

TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

February 7, 2011 - Februa

Client ID Number	Lab ID No	umber	Asbestos Mineral	Asl	estos Str	ucture Tvr	oes*	Structures >5 Microns in Length	**Excluded Structures	Asbestos Structures for
			•	Fibers				🥦	•	Concentration
3W-020612 SW	EM	860818	ND	0	0	0	0	0	0	0
3W-020612 NW	EM	860819	ND	0	0	0	. 0	0	0	0
3W-020612 NE	EM	860820	ND	0	0	0	0	0	0	0
3W-020612 SE	FM	860821	ND	0	0	0	0	0	0	0

^{*}See Analytical Procedure for definitions

^{**}C = Excluded from total due to lack of confirmation

^{**}L = Excluded from total for length less than 0.5 micron (AHERA only)

^{**}A = Excluded from total due to i ncorrect as pect ratio

ND = None Detected

Due Date: 2 - af 1 2 Due Time:____

RESERVOIRS Environmental, Inc. 5801 Logen St. Denver, CO 80216 • Pix 303 084-1986 • Fax 303-477-4275 • Toll Free :886 REBI-ENV

	Peger: 30 9-5 09 INVOICE TO: (IF			MT\										ONTAC	T 14	IFOD		· •		•	
Company: RER Environmental	Company:	DIF	LKL	11/		Cont	act: {	1	2 (2	سل	al la			ONTAC	, I II	Conte	MATION	li .			
Address: 47 W 9800S #2	Address:					Ptwe	IS:	JULU	<u></u>		<u>ci w</u>	y _				Phon	p:				
Sandy Ut. 84070						Fax:										Fax:					
				-		Cati/	peger.	801	51	II-	103	35				Call/p	agar.				
Project Number and/or P.Q. 0:					•		Data D	elivera	ble Em	all Add	rose:										
Project Description/Location: 3C* West Sass - RMP							deve	<u>೭@</u>	4	en	V) rC). (د	<u>om</u>								
ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm		\$ 7 y	73.75	<u>-</u> -	RE	FOUE	STE	DAN	ΔĹΥ	'SIS	77.	1 (2)	6 25 8	5 (623) a.	V۵	LID N	ATRIX	CODES	o la mit	AB NOTES:	\equiv
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(Rush PCM = 2hr, TEM = 6hr.)		H				1									Dust			Paint = P			
CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm		1					-			$ \cdot $					Soil:	= S		Wipe = W			\neg
Metal(s) / DustRUSH 24 hr3-S Day	**************************************	1	볹				1		_					S	wab:	= SW		F = Food			
RCRA 8 / Metals & Welding RUSH 5 day10 day	**Prior notification is required for RUSH .	5	Quant,			£			100			.g	il	Drinkir	ng Wa			te Water = W	v		
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MICROBIOLOGY: LABORATORY HOURS: Weekdays: 9am - Spr E.coll O157:H7, Collforms, S.aureus 24 hr 2 Day	n 3-5 Day	gbort.	_	ا به ا			- 1	11	8	ફ	3	툁						Ì			
Salmonella, Listeria, E.coll, APC, Y & M 48 Hr 3-5 Day			7402, SO-Ind	OSHA	ا يو	yte(s) Welding Fume,			*	E E	Ę	5 5	INITIALS OR OTH	1		1			<u> </u>		
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Special Instructions:		Short report,	AHERA, Jant, Mic	7400A,	l ₽	· F	ORGANICS - METH	E.coli 0157:	ğ ğ		1 2	ž .	18 ·	۾ ڏِ ا	Sog	tainers		1	EMI	lumber (Labo	ratory
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Client sample ID number (Sample ID's must be unique) (3	Semi	S. S.	ä	₩ Ø	ř	j	MICRO	BIOL	.OGY		3	ı <u>s</u> ⊃	Matrix	Cont #	pim/dgl/yy				1.0
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NOTE: REI will analyze incoming samples based upon-intormation received and will not be	responable for on ors or omissions in cr	elculati	one resi	Jiting fo	rom tha	Inaccu	nacy of o	origina	data.	By s i gi	ning cl	ient/co	mpany r	epresantati	va agı	eas the	it automission	of the following	samples for	raquested	
analysis as indicated on this Citain of Cuatody abali constitute an analytical aarvices agreem	ent with payment tanns of NET 30 days	a, failu	re to cor	n pły wei	ith payr	nent ter	ms may	result	in a 1.	6% ma	onthly	Interes	t surcha	rge.							
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Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

Structure Types

		•		
Α	=	Amosite	F =	Fiber
An	=	Anthophyllite	B =	Bundle
C	=	Chrysotile	C =	Cluster
Cr	=	Crocidolite	M =	Matrix
T	=	Tremolite		

ND = no structures detected

M = other structure associated with a matrix

NAM = Non Asbestos Mineral

XGB = partly obscured by a grid bar

Sizing Conversion

1 length unit = 5 mm on screen = 0.278 micron

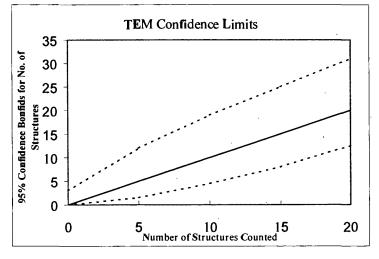
1.80 length units = 0.5 micron

18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr Nathan DelHierro Angela Heitger Jonathan Bernard Paul D. LoScalzo Mark Steiner Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	Reservoirs Environmental,Inc.
Instrument	JEOL 100 CX N
Voltage (KV)	100 KV
Magnifcation	20 KX
Grid opening area (mm2)	0.010
Scale: 1L =	0.29 um
Scale: 1D =	0.058 um
Primary filter area (mm2)	385
Secondary Filtar Area (mm2)	N/A_
QA Tvpe	Not QA

Client:	R & R Environmental
Sample Tyoe (A=Air, O=Dust):	Α
Air volume (L) or dust area (cm2)	950
Date received by lab	02/07/2012
Lab Job Numben	229208
Lab Sample Number:	860818

Fraction of primery filter used	
Total Rasuspension Volume (ml)	
Volume Applied to secondary filter	

Analyzed by	n.zimbelman
Analysis date	02/07/2012
Method (D=Direct, I=Indhect,	
IA=Indirect, ashed)	D
Counting rules	
(ISO, AHERA, ASTM)	Ahera
Grid storage location	Nonth Analyzed
Scope Alignment	Date Analyzed

Client Sample 1D Number 3W-020612 SW

	Grid	Grid Opening	Structure	No. of Stru	ctures	Dimer	sions	Identification	Mineral Class				1 = y	es, blank	= no
			Туре	Primary	Total	Length	Width	100/10::00:00	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
	4	A2-6	μJ									`			
	,	83-3	43												
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02.7.12

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	Reservoirs Environmental,Inc.
Instrument	JEOL 100 CX N
Voltage (KV)	ioo KV
Magnification	20 KX
Grid opening area (mm2)	0.010
Scale: 1L =	0.29 um
Scale: 1D =	0.058 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	N/A
QA Tvoe	Not QA

Client:	R & R Enviranmental
Sample Type (A=Air, D=Dust):	Α
Air volums (L) or dust area (cm2)	950
Date received by lab	02/07/2012
Lab Job Number:	229208
Lab Sample Number.	860819

F-Factor Calculation (Indirect Preps Only):					
Fraction of primary filter used					
Total Resuspension Volume (ml)					
Volume Applied to secondary filter (ml)					

Analyzsd by	n.zimbelman
Analysis date	02/07/2012
Method (D=Direct, l=Indirect, IA=Indkect, ashed)	D
Counting rules (ISO, AHEFIA, ASTM)	Ahera
Grid sterage location	Nonth Analyzed
Scope Alignment	Date Analyzed

Client Sample ID Number: 3W-03D612 NW

Grid	Grid Opening	Structure	No. of Str	uctures	Dimer	Dimensions Iden		Mineral Class				1 = yes,blank = no		
Ond	Ond Opening	Туре	Primary	Total	Length	Width	Identification	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
+	3-4	47												
<u> </u>	エレシ	VI												
	£3-1	49												
	F3.3	41												
	F3-6	49												
	64.1	শৌ			A:	80	1/20t-	1-3	TEN MI					
B	F2-3	44					,			٠.				
	67-3	NI												
	Elul	4J												
	Er-6	كلب			}	۲. ۱	- 3 %	debne)						

JBX

Reservoirs Environmental, Inc. TEM Astrestos Structure Count

Laboratory name:	Reservoirs Environmental, Inc.
Instmment	JEOL 100 CX N
Voltage (KV)	100 KV
Magnification .	20 KX
Grid opening area (mm2)	0.010
Scale: 1L =	0.29 um
Scale: 1D =	0.058 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	N/A
QA Type	Not QA

7 Eur Asijostos Ott	acture Count			
Client:	R & R Environmentel			
Sample Type (A=Alr, D=Dust):	A			
Air volume (L) or dust area (cm2)	948			
Date received by lab	02/07/2012			
Lab Job Number:	2 29208			
Lab Sample Number:	860820			

Frection of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	n.zimbelman
Analysis date	02/07/2012
Method (D=Oirect, l=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	Ahera
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Client Semple ID Number: 3W-020612 NE

Grid	Grid Opening	Structure	No. of Str	uctures	Dimer	nsions _	tdentification	Mineral Class				1 = y	es, blank	= no
O.I.G	Cita Opening	Туре	Primary	Total	Length	Width	ido italicação i	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
4	1-3	41												
	62.3	YY												
	主なり	H												
	ニャ ・3	(T)									-			
	F3_ 6	ધો												
	#3-6	الله			Ą	: 75	Y45 3	3-5 / DE	Ina)					
В	F2-3	선질												
	F3-1	حالا											·	
	32-6	人												
	A3-6	الم				} ∶	~ 60 >	-*+-3-5	ا حر	eon-				

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (A) S
Voltage (KV)	100 KV
Magnification	(OKX OKX
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	RH
Sample Type (A≃Air, D≃Dust):	A
Air volume (L) or dust area (cm2)	150
Date racelved by lab	2 7/12
Lab Job Number:	229208
Lab Sample Number:	860 821

Fraction of primary filter used	
Total Resuspension Volume (mi)	 :
Volume Applied to secondary filter	

Analyzed by	JB
Analysis date	2/8/12
Method (D=Olrect, I=indirect,	
IA≃Indirect, ashed)	
Counting rules	2.1
(ISO, AHERA, ASTM)	HH
Grid storage location	Month Analyzed
Scope Alignment	Date Arialyzed

	Gild	Grid Opening	Structure	No. of St	ructures	Dime	nsions	Identification	Mineral Class				1 = yes, blank = no		
			Туре	Primary	Total	Length	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
78/2	CA	H3-1	ND				'	A2/0/12	:						
		63-1	M			Par	o X	2 70%	In hut	3	-5%	Jelus			
		F3-1	M			Pr	6	D 50%	Contrit	3	50/	Lebas			
		E3-1	ND											·	
		F3-3	ND		-				13	2/8	5/12				
	D	E3-4	2						71	,	<i>)</i> :				
	·	B-1	₩												
		C3-4	ND												
•		C3-1	ND				. ,								
			o .												

Analytical Procedures - AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chiysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber: is a structure having a minimum length greater than or equal to 0.5

micron with an aspect ratio of 5:1 or greater with substantially parallel

sides.

Bundle: is a structure composed of three or more fibers in parallel arrangement,

with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

Matrix: is a fiber or fibers with one end free and the other end embedded or

hidden by a particulate. The exposed fiber end must meet the fiber

definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

Area Analyzed, mm² = # GO counted x Average GO Area (mm)

Concentration, s/cc = $\frac{\text{\# Asbestos Structures}}{\text{\# GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2)}{\text{Average GO area (mm}^2)} \times \frac{\text{IL}}{\text{1000cc}}$

Filter loading, s/mm² = # Asbestos structures Area Analyzed (mm²)

GO = TEM grid opening



February 9, 2012

Laboratory Code:

RES

Subcontract Number: Laboratory Report: NΑ

Project # / P.O. #

RES 229278-1 None Given

Project Description:

3rd West Sub - RMP

Eldon Romney R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 229278-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer Orr

President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101898-0; TDH: #30-0018

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 229278-1

Client: .

R & R Environmental

Client Project Number / P.O.: None Given Client Project Description:

3rd West Sub - RMP

Date Samples Received:

February 8, 2012

Analysis Type:

TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

February 9, 2012

Client	Lab		Area	Air	Number of	Analytical	Asbestos	Filter	
ID Number	ID Number		Analyzed Volume Sampled		Asbestos Structures Detected	Sensitivity	Concentration	Loading	
			(mm²)	(L)		(s/cc)	(s/cc)	(s/mm²)	
3W-020712 SW	EM	861229	0.0800	970	ND	0.0050	BAS	BAS	
3W-020712 NW	EM	861230	0.0800	970	ND	0.0050	BAS	BAS	
3W-020712 NE	EM	861231	0.0800	972	ND	0.0050	BAS	BAS	
3W-020712 SE	EM	861232	0.0800	970	ND	0.0050	BAS	BAS	

NA = Not Analyzed

ND = None Detected

BAS = Below Analytical Sensitivity

Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester

Filter Diameter = 25 mm

Effective Filter Area = 385 sq mm

DATA QA

Due Date:	2912
Due Time:	845~

Sei Logen St. Derwar, CC 80218 · Ph: 303 864-1866 · Fox 303-477-4276 · Tdl Fore :866 RESI-ENV

Page __1__of _[__

Pagar: 383-509-2098 INVOICE TO: (IF DIFFERENT) CONTACT INFORMATION: Company: Contact: Dove Roskeller Environmenta Contact: Address 47W 90005 #2 Fax: Cell/pager 8015411-1024 rojact Number and/or P.O. #: roject Description/Location: dave @ menvirocom 30 West Sub- ENIP ASBESTOS LABORATORY HOURS: Weekdaya: 7am + 7pm **REQUESTED ANALYSIS** VALID MATRIX CODES LAB NOTES: RUSH (Same Day) PRIORITY (Next Day) PLM / PCM / TEM STANDARD Air = A Bulk = B (Rush PCM # 2hr. TEM * 8hr.) Dust = D Paint = P CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm Soil ≖ S Wipe = W ___ RUSH ___ 24 hr. ___3-5 Day Metal(s) / Dust Swab = SW F = Food Quant "Prior notification la RCRA 8 / Metals & Walding Orinking Water = DW | Waste Water = V/W required for RUSH RUSH ___ 5 day ___ 10 day Fume Scan / TCLP O = Other . Agenta turnarounda.** "ASTM E1782 approved wipe media only" 24 hr. ___ 3 day ___5 Day Organics S 50 MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm E.coll O157:H7, Coliforms, Saureus 24 hr. ___ 2 Day SHA Salmonella, Listeria, E.coll, APC, Y & M 48 Hr. _ 3-5 Day Mold RUSH 24 Hr 48 Hr 3 Day "Thirarounit things eatablish a jaboratory priority, subject to laboratory volume and are not quaranteed. AddMonal fee Sample Volume apply for afterhours, weekends and holidays." Special Instructions: EM Number (Laboratory Date Time Use Only) Collected Collected Client sample ID number (Sample ID's must be unique) MICROBIOLOGY mm/dd/w hh/mm a/p 3W-020712 SW 970 02/07/2 861229 3W-020712 NW 910 ZW-020712 ME 972 970 6 7 8 9 10 Number of samples received: (Additional samples shall be listed on attached long form.) NOTE: REI will enabyze incoming samples been uncomformation received and will not be responsible for errors or omissions in calculations resulting from the inaccurecy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Charing Custody shall constitute an againstical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge. ted Ex Datanime: DZ Rolinguished By: Sample Condition: Intact Laboratory Use Only Yes / No Yes / No Yeş / No Received By: Results: Date 2 9 12 Time 9.400 Initials Contact Prone Email Fax Prone Smail Fax Contact Date Time Initials Date Phone Email Fax Contaci 1Phone Email Fax Initials

12 74: 7932 0388 0295 7-2011_version 1

Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

Structure Types

			_	
Α	=	Amosite	$\mathbf{F} =$	Fiber
An	=	Anthophyllite	$\mathbf{B} =$	Bundle
C	=	Chrysotile	C =	Cluster
Cr	=	Crocidolite	M =	Matrix
т	_	Tramalita		

ND = no structures detected

M = other structure associated with a matrix

NAM = Non Asbestos Mineral

XGB = partly obscured by a grid bar

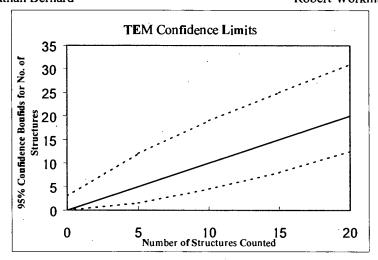
Sizing Conversion

1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr Nathan DelHierro Angela Heitger Jonathan Bernard Paul D. LoScalzo Mark Steiner Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (V) S
Voltage (KV)	100 KV
Magnification	20KX) 10KX
Grid opening area (ιτιm2)	0.011
Scale: 1L =	0,28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Typo	

I LIN HODGIUS SI	notolo coom
Client :	Rak
Sample Type (A=Alr, D=Dust):	A I
Air volume (L) or dust area (crn2)	470
Date received by lab	28/2
Lab Job Number:	226278
Lab Sample Number:	8612 29

Analyzed by	13
Analysis date	2/1/2
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	5
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps	Only):	
Fraction of primary tilter used		
Total Resuspension Volume (ml)	· · ·	
Volume Applied to secondary filter (ml)		

Grid	Grid Opening	Structure	No. of St	ructures	Dimer	nsions	Identification	Mineral Class			·	1 = yes, blank = no		
		_; Type	Primary	Total	Length	Width		Amphibole	c	NAM	Sketch/Comments	Sketch	Photo	EDS
A	H33	ND												·
	613-3	MD			(2,	20 A	80/	a un hourt	5-	10%	debus			
	F3-3	M			Pn	s B	60%	Sinhart	5-11	ho	elmy			
	E3-3	ND								a				
B	H3-3	ND						18	2/9/1	2				
	633	MD							//					
	F3-3	QN						/			,			
	E3-3	MD												
		 				·		·.						
				<u> </u>			<u>.</u>							

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N S
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	Rak
:	$\sim \Lambda$
Sample Type (A=Air, D=Dust):	
Air volume (L) or dust area (cm2)	970
Date received by lab	282
Lab Job Number:	226278
Lab Sample Number:	Sel 2 30

Analyzed by	AH
Analysis date	2/1/12
Method (D=Direct, I=Indirect,	
IA=Indirect, ashed)	
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Fraction of primary filter used	1
Total Resuspension Volume (mi)	1
Volums Applied to secondary filter (ml)	

Grid	Grid Opening	Structure	No. of St	ructures	Dime	nsions	Identification	Mineral Class].	1 = yes, blank = no		= no
	J.,,,	Type	Primary	Total	Length	Width		Amphibole_	·c	NAM	Sketch/Comments	Sketch	Photo	EDS
A	64-1	MD												
	F4-1	MD												
	E4-1	MD		Pie	A>	80	Sintac	y 5 lud	e br	S				
	cu-1	NO		Pie	B	L Pié						,		
B	63-60	ay												
	F3-6	V.D				1		/.						
	E3-6	2												
	C3-6	50												
		1												

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX NS
Voltage (KV)	100 KV
Magnification	20KX) 10KX
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	386
Secondary Filter Area (mm2)	
QA Type	

Client:	Rel
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	197
Date received by lab	2/8/2
Lab Job Number:	226278
Lab Sample Number:	86/23)

Analyzed by	AH		
Analysis date	2/1/12		
Method (D=Direct, I=Indirect,	- - / · /		
iA≠Indirect, ashed)			
Counting rules			
(ISO, AHERA, ASTM)	AH.		
Grid storage location	Month Analyzed		
Scope Alignment	Date Analyzed		

F-Factor Calculation (Indirect Pr	eps Uniy):
Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure	No. of St	nuctures	Dimei	ensions Identification		cation Mineral Class				1 = yes, blank = no		
	One Opening	Туре	Primary	Total	Length	Width		Amphibole	·c	NAM	Sketch/Comments	Sketch	Photo	EDS
A	H3-1	an		-				• ,		· ·				
	63-1	ND			_									
	F3-1	M		Pre	A:	60%	intact	5% d	662	2				
	E3-1	MD		Pizo-		-Pie	1							
B	62-3	ND												
	F2-3	ND					$\overline{}$							
	E2-3	ND												
	(2-3	M				1		·						
					(
											,			

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
instrument	JEOL 100 CX NOS
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid opening area	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	885
Secondary Filter Area (mm2)	
QA Type	

Client :	RR
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	920
Date received by lab	2/8/2
Lab Job Number:	2-262-78
Lab Sample Number:	8612 32
!	

F-Factor Calculation (Indirect P	reps [,] Only):
Fraction ot primary filler used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (rtt)	

Analyzed by	AH
Analysis date	2/1/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	
Counting rules (ISO, AHERA, ASTM)	PH.
Grkl storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class				1 = yes, blank = no		
Gilo	Ond Opening		Primary	Total	Length	Width	Identification	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	630	M											·	·
	F3-6	27												
	E3-6	MD		De la	cA:	leo	di intac	4 5%0	lebi	S	·			
	C3-4	M		Co	0B;	70%	vin tac	+ 5%	de	6-5			,	
B	65.3	(VD)					!							
	Fs-3	20												
	ES-3	2			/									
	25.3	20												
		·												

Analytical Procedures - AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber: is a structure having a minimum length greater than or equal to 0.5

micron with an aspect ratio of 5:1 or greater with substantially parallel

sides.

Bundle: is a structure composed of three or more fibers in parallel arrangement,

with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

Matrix: is a fiber or fibers with one end free and the other end embedded or

hidden by a particulate. The exposed fiber end must meet the fiber

definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

Area Analyzed, $mm^2 = \# GO \text{ counted } x \text{ Average } GO \text{ Area } (mm)$

Concentration, $s/cc = \frac{\text{\# Asbestos Structures}}{\text{\# GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2)}{\text{Average GO area (mm}^2)} \times \frac{\text{IL}}{1000cc}$

Filter loading, s/mm² = # Asbestos structures Area Analyzed (mm²)

GO = TEM grid opening



February 10, 2012

Laboratory Code:

RES

Subcontract Number:

NA

Laboratory Report: Project # / P.O. #

RES 229386-1 None Given

Project Description:

3rd West Sub - RMP

Eldon Romney R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient In both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 229386-1 Is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described In this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer Orr

President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 229386-1

Client:

R & R Environmental

Client Project Description:

Client Project Number / P.O.: None Given

3rd West Sub - RMP

Date Samples Received:

February 9, 2012

Analysis Type:

TEM, AHERA 24 Hour

Turnaround: Date Samples Analyzed:

February 10, 2012

Client	Lab ID Number		Area	Air	Number of	Analytical	Asbestos	Filter Loading	
ID Number			Analyzed	Volume Sampled	Asbestos Structures Detected	Sensitivity	Concentration		
			(mm²)	(L)		(s/cc)	(s/cc)	(s/mm²)	
3W-020812 SW	EM	862261	0.0900	880	ND	0.0049	BAS	BAS	
3W-020812 NW	EM	862262	0.0900	878	ND	0.0049	.BAS	BAS	
3W-020812 NE	EM	862263	0.0900	878	ND	0.0049	BAS	BAS	
3W-020812 SE	EM	862264	0.1000	478	ND	0.0081	BAS	BAS	

NA = Not Analyzed

ND = None Detected

BAS = Below Analytical Sensitivity

Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester

Filter Diameter = 25 mm

Effective Filter Area = 385 sq mm

DATA QA

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE II. SUMMARY OF ANALYTICAL DATA

RES Job Number:

RES 229386-1

Client:

R & R Environmental

Client Project Number / P.O.: None Given

Client Project Description:

3rd West Sub - RMP

Date Samples Received:

February 9, 2012

Analysis Type:

TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

February 10, 2012

Client ID Number	Lab ID Number		Asbestos Mineral	Ast	estos Stri	ucture Typ	es*	Structures >5 Microns in Length	**Excluded Structures	Asbestos Structures for	
			-	Fibers	Bundles	Clusters	Matrices			Concentration	
3W-020S12 SW	EM	862261	ND	0	0	0	0	0	0	0	
3W-020812 NW	EM	862262	ND	0	0	0	0	0	0	0	
3W-020812 NE	EM	862263	· ND	0	0	0	0	0	0	0	
3W-020812 SE	FM	862264	ND	1	0	0	0	. 0	1**L	1	

^{*}See Analytical Procedure for definitions

^{**}C = Excluded from total due to lack of confirmation

^{**}L = Excluded from total for length less than 0.5 micron (AHERA only)

^{**}A = Excluded from total due to i ncorrect as pect ratio

ND = None Detected

Due Dafe: 2-190-12 Due Time:__

REILAE RESERVOITS ETVITOTIMENTAL, INC. 550 I Logan St. Owwer, CO 60316 · Ph; 303 984-1986 · Fax 303-477-4278 · Too Free :806 RESI-ENV

Pager: 303-869-2098

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Project Number and Air P.O. 4:						P		ta Deliv		-										-	-
Project Description/Location: 3 th West Sub - RMP							<u>O</u>	we	@	3	env	iro.	<u> </u>	^							
ASBESTOS LABORATORY HOURS: Weekdays: 7am - Tpm		Т	37.	1 414		REQU	FST	FD /	ANA	LYS	NS:		·.:		7. j	VAI	ID N	ATRIX C	ODES	LAB	NOTES:
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E.coll O157:H7, Coliforms, S.aureus 24 hr2 Day	3-5 Day	Long report, Point Count	§ 3	₹ ≨		- Analyte(s) TCLP, Welding Fume,	1			8 3	養	diffe.	Mold: +/-, Identification, Quantificati	E		1					
Salmonella, Listeria, E.coli, APC, Y & M 48 Hr3-5 Day		ş	12.8	SH SH	Respirable	G	'	1 1		+	18	3 2	Set.	ž.					l .		
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NOTE: REI will analyze incoming samples based upon infogration received and will not be re				_			uracy (of origi	nal đi	ta. By	signir	ng çilər	l/com	pany 190	resantativ	a egre	es that	t submission o	f the following sa	mpies for requ	satsđ
analysis as indicaled on this Chain of Custody shall constitute an analytical services agreeme	nt with payment tenns of NET 30 days	s, faile	ure to c	omply w	vith pa	yment t	ma ir	nay iye	ult in	a 1.8%	6 mon	thly int	erest	surcharg	9.						
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Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

Structure Types

		•		
Α	=	Amosite	$\mathbf{F} =$	Fiber
An	=	Anthophyllite	$\mathbf{B} =$	Bundle
C	=	Chrysotile	C = 0	Cluster
Cr	=	Crocidolite	M =	Matrix
Т	=	Tremolite		

ND = no structures detected

M = other structure associated with a matrix

NAM = Non Asbestos Mineral

XGB = partly obscured by a grid bar

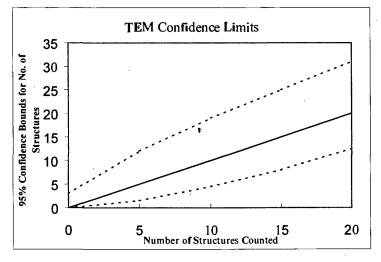
Sizing Conversion

1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr Nathan DelHierro Angela Heitger Jonathan Bernard Paul D. LoScalzo Mark Steiner Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Laboratory name:	REI
Instrument	JEOL 100 CX/N)S
Voltage (KV)	100 KV
Maanification	(20KX) 10KX
Crld opening area (mm2)	0.01f
Scale: 1L =	0.28 urn
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Tyoe	

Client :	RAR
Samole Type (A=Air, D=Dust):	A
Air yolume (L) or dust area (cm2)	880
Date received by lab	2 9 2
Lab Job Number:	229386
Lab Sample Number:	862261

F-Factor Calculation (Indirect Preps Only):						
Fraction of primary filter used						
Total Resuspension Volume (ml)						
Volume Applied to secondary filter (ml)						

Scope Alignment	Date Analyzed
Grid storage location	Month Analyzed
Counting mies (ISO, AHERA, ASTM)	AH
Method (D=Direct, l=Indirect, IA=Indirect, ashed)	D
Analysis date	2/10/12
Analyzed by	J.8

Grid	Grid Opening	Structure	No. of St	ructures	Dimer	nsions	Identification	Mineral Class				1 = y	es, blank	= no
		Туре	Primary	Total	Length	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	45-4	ND			·									
	65-4	ND												
	F5-4	ND			1	OA	70	La Int		5-/(of delso	5		
	E5-4	ND			Pin	5/	80.	lo calmit		E-1	5 hodeby	,		
	E6-4	MD					\	//						
B	K4-6	MD						1B	210	12				·
	H4-6	ND							1 /					
	64-6	ND						,						
	F4-6	M												

Page	1	of	

	·
Laboratory name:	REI
Instrument	JEOL 100 CX/N)S
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid opening area (mm2)	30.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 uni
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Tyoe	

Client :	RAC
Sample Type (A=Air, D=Dust):	A P
Air volume (L) or dust area (cm2)	878
Date received by lab	2/9/2
Lab Job Number:	221386
Lab Sample Number:	862262

F-Factor Calculation (Indirect Pr	eps Only):
Fraction of primary (liter used	
Total Resuspension Volume (mi)	
Volume Applied to secondary filter (ml)	

Analyzed by	13
Analyzed by Analysis date	
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting mles (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure	No. of St	mctures	Dime	nsions	Identification	Mineral Class				1 = y	es, blank	≖ no
0.10	J. J. J. J. J. J. J. J. J. J. J. J. J. J	Туре	Primary	Total	Length	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	K4-4	ND												
·	H4-4	M											,	
	64-4	ND									·			
	F4-3	10				209	AB	80%	inf	unt	5% de	bus		
	E21-3	MD				' '								
3	614-4	2												
	F4-4	ND												
	E4-4	ND												
	CHI	ND												

Laboratory name:	REI
Instrument	JEOL 100 CX/N)S
Voltage (KV)	100 KV
Magnification	(20KX)10KX
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primaty filter area (mm2)	385
Secondary Filter Area (mm2)	
OA Tyoe	

Client :	RUR
Sample Type (A≖Air, D=Dust):	A
Air volume (L) or dust area (cm2)	678
Date received by lab	29/2
Lab Job Number:	221386
Lab Sample Numben	862263

Analyzed by	J(3)
Analysis date	2/10/12
Method (D=Direct, l=Indirect, IA=Indirect, ashed)	
Counting nules (ISO, AHERA, ASTM)	AL
Grid storage tocation	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Pr	eps Only):
Fraction of primary filter used	
Totel Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure	No. of St	ructures	Dimei	nsions	Identification	Mineral Class			1	1 = y	1 = yes, blank = no		
310	Grid Opening	Туре	Primary	Total	Length	Wkith		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS	
A	F4-6	ND							<u> </u>					<u> </u>	
• •	E4-6	M													
	4-6	MD			Pro	SA	B.	~ 80%	Ca	4	3-50/00	ebiz		.,	
	H3-3	M						6							
	613-3	ND						B 2/11	/12						
B	H3-6	N					- /	1 /							
	63-6	ND													
	F3-6	ND									·				
_	E3-6	Z													

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l	上海家庭 (不是坚持) (扩展) [1]
Laboratory name:	REI
Instrument	JEOL 100 CX/N)S
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Voltage (KV)	100 KV
1	[李相] 不是 [] [] [] []
Maanification	(20iOC) 10KX
Grid opening area	Secretary Desired Server
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Scale: 1L =	0.28 um
	A CHARLEST HE SEE THE SEE SEE
Scale: 1D =	0.056 um
Primary filter area	TV LOCAL LANGE BARRA
	-385
(mm2)	His world make and the state of the second make and the second make a se
Secondary Filter Area	
(mm2)	可是自然是不管理解的
	是指数是特殊的原因的實施
QA Tyoe	1000年7月1日 1100年11日 1100年1

Client :	RUC
Samole Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	478
Date received by lab	292
Lab Job Number:	221386
Lab Sample Number:	862 264

Fraction of primary filter used	
Total Resuspension Volume (ml)	· · · · · · · · · · · · · · · · · · ·
Volume Applied to secondary filter	

Analyzed by	5 78
Analysis date	2/10/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	HED.
Counting rules (ISO, AHERA, ASTM)	AL
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Grid Opening		No. of St	ructures	Dimer	nsions	Identification	Mineral Class				1 = y	es, blank	= no
Gild Opening		Туре	Primary	Total	Length	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	FULL	M												
	F4-4	MD			P	\mathcal{A}	80	0 % ah	m f	5	-10% Se	62 S		
	64-4	M			Pro	B								
	B4-4	ND												
	44-4	ND												
B	44-4	MD												
· •	44-4	F		0			40		1		1 excl	rded	lengt	120.5
	614-4	M											,	
	F4-4	ND												
	E4-4	ND												·

Analytical Procedures – AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confinnation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber: is a structure having a minimum length greater than or equal to 0.5

micron with an aspect ratio of 5:1 or greater with substantially parallel

sides.

Bundle: is a structure composed of three or more fibers in parallel arrangement,

with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

is a fiber or fibers with one end free and the other end embedded or Matrix:

hidden by a particulate. The exposed fiber end must meet the fiber

definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

Area Analyzed, mm² = # GO counted x Average GO Area (mm)

Concentration, $s/cc = \frac{\# \text{ Asbestos Structures}}{X}$ x Eff Filter Area (mm²) x <u>IL</u> Volume (L) Average GO area (mm²) # GO Counted

> Filter loading, $s/mm^2 = \frac{\# Asbestos structures}{m^2}$ Area Analyzed (mm²)

> > GO = TEM grid opening



February 13, 2012

Laboratory Code:

RES

Subcontract Number:

NA

Laboratory Report: Project # / P.O. #

RES 229492-1 None **G**iven

Project Description:

3rd West Sub - RMP

David Roskelley R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 229492-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer Orr

President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 229492-1

Client:

R & R Environmental

Client Project Number / P.O.: None Given

Client Project Description: Date Samples Received:

3rd West Sub - RMP February 10, 2012

Analysis Type:

TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

February 10, 2012

Client	Lab		Area	Air	Number of	Analytical	Asbestos	Filter
ID Number	ID N	umber	Analyzed	Analyzed Volume Asbest Sampled Structur Detect		Sensitivity	Concentration	Loading
			(mm²)	(L)		(s/cc)	(s/cc)	(s/mm²)
3W-020912 SW	EM	862747	0.0900	918	ND -	0.0047	BAS	BAS
3W-020912 NW	EM	862748	0.0900	918	ND	0.0047	BAS	BAS
3W-020912 NE	EM	862749	0.0900	941	ND	0.0045	BAS	BAS
3W-020912 SE	FM	862750	0.0900	907	ND	0.0047	RAS	RAS

NA = Not Analyzed

ND = None Detected

BAS = Below Analytical Sensitivity

Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester

Filter Diameter = 25 mm

Effective Filter Area = 385 sq mm

DATA QA

Due Date: 2-11-12 Due Time: 중식도-

REILAB RESERVOITS ENVIRONMENTAL, INC. 5501 Logan SL Deriver, CO 98219 • Ph; 303 964-1986 • Fex 303-477-4275 • Toll Free 266 RESI-ENV

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							Cor	tact:	<u>) a.</u>	R R	-1	717				1170		Contact				
1dress: 47W 90905 #2	Address:						Pho		701	<u>, C (</u>	e y	evi	LY_					Phone.				
Sandy, W. Sepo 70	 						Fax	:										Fax:				
2010-104, 200-10							Cel	/pager.	80	15	यां-	-10	35					Cell/pag	jar;	•		
ojoct Number and/or P.O. #:						_	Fln	al Data	Delive	rable E	maă A	vádres:	5 :									
ejed Deectphor/Location: 3'00 West SW5 - RMP							1	de	ve	<u>@</u>	re	m	<u>10.6</u>	ممرى	<u> </u>							
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(Rush PCM = 2hr, TEM = 6hr.)			1 '		1 1		Y	1		1 1	1	11			-]		Dusi =	D	Р	aint = P	1	
HEMISTRY LABORATORY HOURS: Weekdays: 8ani - Spiti		- 24.4.1]		1 1			1 1	-	11	1		1	i	- 1	-	Soil =	\$	W	lps = W		
letal(s) / Dust RUSH 24 hr3-5 Day			7	崔	1 1				-	$ \cdot $					Ι	Sv	vab =	sw	F	= Food		
CRA 8 / Metals & Welding RUSH 5 day10 day	**Prior notificati required for RU		달	Quant	1 1		ន	1]						s		Drinkin	g Wa	er = D	W Waate	Water = WW		
ume Scan / ICLF	tumarounds.		8	Preps	1		8	1	- }					8 2					= Other			
rganics 24 hr 3 day 5 Day	and a second to the second		Point Count	SC, pg			Metals Scan	{ }		September 1		8	5	불일	L	**AS	TM E1	792 ap	proved wipe	media only**		
ICROBIOLOGY LABORATORY HOURS: Weektlays: 9ani - 8p		<u>\$44 (71)</u>	[[년	2. ga Ω Si	1 1		≥	ļί	1		5 5	ig i	ğ §	ion, Our	- 1		-				<u> </u>	
coll O157:H7, Collforms, S.aureus 24 hr2 Day			퇃	7402, ISO-India	SHA		Analyte(s) CLP, Welding Fume, I				1 2			5	l		l				— —	
almonella, Listeria, E.coll, APC, Y & M 48 Hr3-5 Da lold RUSH 24 Hr		E Day	ğ	= .	. 1 . 1	Respirable	Ē		14]],	F		3 5	E 2	. 1							
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pecial instructions:	<u> </u>	A 548 15 E	Short			- Total,		18	뾝뚭	133 6	<u>∓</u> <u>1</u>	E	: E	3 =	- 1	Volume	Code	<u> </u>		ļ	E NO AL	
poster modulation	•		1 •	₹ §	- 1 - 1		A 8.	Ĭ¥	Salmonella: +/- E.coli 0157:H7:	18	E.86	Colifornis	Y & M:	불분	- 1	윩	O Ž	臣	Dale	Time	1	Iffiber (Labore Use Only)
Hetit sample ID number (Sample ID's must be unique	ie)	1949,55		TEM - AHE Seml-quant,	25	DUST	METALS RCRA 8,	ORGANICS - METH	и (ш			OrCG		- §	1	Sample V((L) / Area	Matrix	# Containers	Collected mm/dd/yy	Collected		
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2 3W-020912 NW					300	3.0	2.7 3.4 2.7 7 A		No.	131			1			918	ΤÌ			B. 17.		46
3 3W-070912 NE	n gina wasa jina gasa 11 n Kaga	<u> </u>	1		+-4		37 (34%	1	74	1 1	4=	H	+			741		-		**************************************	1	
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							2-2-0	light.			3 5.								2044			
lumber of samples received: (Addit	tonal samples shall	be listed or	atta	hed t	eng (o	orm.))															
NOTE: REI will gnatyzo incoming samplas beard lipornitionnation received and wis not be analysis as indicated on this Chain of Cusjody shall constitute an analytical earvices agree	e redponsible for an ors or	ombajona in	calcula	ions re	euiting i	from t	Termaco	uracy o	of origin	naidat	a. By	signing consti	g cilen	t/compa	ny rapro	oseniati	ve agr	es that	submission o	f the following s	amplas for r	squosted
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Received By: Date:	ata/Time:	<u>छ। २ </u>					Carrie		_	_	_		_									
Contact Contact Chore Email Fax Dale	2/1/12 Time 9		<u>tlalsی</u> tials		ontaci				_	e En					_	Date			Tin			lals
Contact Phone Email Fax Date	Time															Date			Tin	^^	Init	ials

Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

Structure Types

Α	=	Amosite	F =	Fiber
An	=	Anthophyllite	B =	Bundle
C	=	Chrysotile	C =	Cluster
Cr	=	Crocidolite	M =	Matrix
T	=	Tremolite		

ND = no structures detected

M = other structure associated with a matrix

NAM = Non Asbestos Mineral

XGB = partly obscured by a grid bar

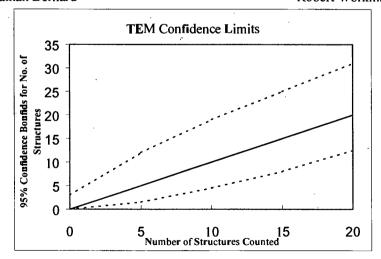
Sizing Conversion

1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr Nathan DelHierro Angela Heitger Jonathan Bernard Paul D. LoScalzo Mark Steiner Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Laboratory name:	ŔĔĬ
Instrument	JEOL 100 CX N(S)
Volfago (KV)	100 KV
Magnification	(20kgx 10kx
Grid opening area (tiim2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	β 4 β
Sample Type (A=Alr, D=Dust):	A
Air volume (L) or dust area (cm2)	-918
Date received by lab	2-110-12
Lab Job Number:	229492
Lab Sample Number:	862744

Counting rules	lethod (D=Dirsct, I=Indirect, A=Indirect, ashed)		200 000 000
Counting rules (ISO, AHERA, ASTM)	N=Indirect, ashed)	IA=Indirect, ashed)	2017 1997 Y

F-Factor Calculation (Indirect Pre	eps Only):
Fraction of primary filter used	
Total Resuspension Voluma (ml)	
Volume Applied to secondary fitter (ml)	

Grid	Grid Opening	Structure	No. of St	ructures	Dimei	nsions	Identification	Mineral Class				1 = y	es, blank	= no
0.10	Cita Opening	Type	Primary	Total	Length	Width	identification	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	E4-4	WD											,	
	C4-4	MD												
	B4-4	24		P	s.A:	85	of intac	\$ 5%	del	5				
	B4-1	$\Delta $		Pro		70%	intact	5%	deb	3				
	A4-4	M			V						·			
B	65-6	ND		l L	l									
	F5-6	Dy					a				·			
	E5-6	CVD				6								
	C5-6	(VD												
								-						

Reservoirs	Environmental, Inc.
TEM Asbes	tos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	(20KX 10KX
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QА Туре	

Client :	RAB.
Sample Type (A=Alr, D=Dust):	I A A A A A A A A A A A A A A A A A A A
Air volume (L) or dust area (cm2)	918
Date received by lab	12210-12
Lab Job Number	229992
Lab Sample Number:	862748

F-Factor Calculation (Indirect Pr	eps Only):
Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volums Applied to secondary filter (ml)	

Analyzed by	-ca
Analysis date	2/10/12
Method (D=Olrect, l=Indirect, IA=Indirect, ashed)	45
Counting rules (ISO, AHERA, ASTM)	466
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure	No. of St	ructures	Dimer	Dimensions Identification Mineral Clas		Mineral Class		Mineral Class			1 = yes, blank = no		
- Ond	Sild Opening	Туре	Primary	Total	Length	Width	radininoanon	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS	
A	193-6	M										·			
	F3-6	M					WA 90	Soloms saylishe			Þ				
	636	M				Pre	1 B ~80	VINJACT 5	ZL	bry	fort	2/10/	12		
	C3-6	M										, ,			
<u></u>	1334	M													
D	93-3	M						·							
~~~	F3-3	M						·							
	43-3	m													
	(3-3	M					,	·							

 	REI
Laboratory name:	ATTENTION RELIGIONS
	<b>一种心理的一种的一种一种一种一种一种一种一种一种一种一种一种一种一种一种一种一种一种一</b>
Instrument	JEOL 100 CX N(S)
	(1)是10年的11年,新疆市场的100mm。
Voltage (KV)	100 KV
	Cardina eller delle alle alle arter
Magnification	(20KX 10KX
Grid opening area	people of the factories are also designed.
(mm2)	0.011
(111112)	Transport A. C. C. C. C. Connection Co. Co. Str. of Co., Phys.
l:	0.28 um
Scale: 1L =	0.28 um
	<b>一张自己的地位是他们的自己的</b>
Scale: 1D =	0.058 um
Primary filter area	· 10.4000 年 10.6000 10.0000 10.0000 10.0000 10.0000 10.0000 10.0000 10.0000 10.0000 10.0000 10.0000 10.0000 10
(mm2)	385
Secondary Filter Area	THE REPORT OF A SECURITION OF THE
(mm2)	
Milling)	to the description of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of
la	
QA Type	ि एक एक्स एक्स एक्स एक विकेश हैं के निर्देश की एक्स की एक्स की एक्स की एक्स की एक्स की एक्स की एक्स की एक्स की

Client :	RAR
Sample Typo (A=Air, D=Dust);	PARE
Air volume (L) or dust area (cm2)	ou I
Date received by lab	2-10-12
Lab Job Number:	229492
Lab Sample Number;	862749

F-Factor Calculation (Indirect Preps Only):							
Fraction of primary filter used							
Total Resuspension Voluma (ml)	·						
Volume Applied to secondary filter (ml)							

Scope Alignment	Date Analyzed
Grid storage locatton	Month Analyzed
Counting rules (ISO, AHERA, ASTM)	Ahera
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	A D
Analysis date	2-10-12
Analyzed by	AH

Grid	Grid Opening	Structure	No. of St	No. of Structures Dimensions		Dimensions		Mineral Class		Identification Mineral Class				1 = y	es, blank	= no
0.10	One Opening	Туре	Primary	Total	Length	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS		
A	65-6	27			·											
	F5-6	M														
	E5-6	M		ي د د	A:	80%	intaci	15-75%	delo	رہ						
	C5-6	ND		Pie	B.	-Pce										
	B5-6	2														
B	64-6	44														
	F4-6	MO														
	E4-6	M														
	C4-6	M				X	Y									
								·								

	The of the entire that before
Laboratory name:	REI
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Instrument	JEOL 100 CX N S
	Participation of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of t
Voltage (KV)	100 KV
_	20KX 10KX
Magnification	(20KX 10KX
Grid opening area	<b>一种企业工作业工作的</b>
(mm2)	0.011
:	0.28 um
Scale: 1L =	0.28 um
	1至2752建型。建筑新疆
Scale: 1D =	0.056 um
Primary filter area	
(mm2)	385
Secondary Filter Area	
(mm2)	<b>上海的海岸</b> (1985年)
	<b>大学是一个工作,不是一个工作,</b>
QA Type	1.50% (1.50%)   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.50%   1.5

Client:	BA G
Sample Type (A=Air, D=Dust):	A A
Air yolume (L) or dust area (cm2)	904
Date received by lab	2-10-12
Lab Job Number:	229992
Lab Sample Number:	86775CD

eps Only):

Scope Alignment	Date Analyzed
Grid storage location	Month Analyzed
Counting mies (ISO, AHERA, ASTM)	Avera
Method (D=Direct, l≃Indirect, IA=IndIrect, ashed)	
Analysis data	2-10-12
Analyzed by	$\mathcal{A}_{H}$

Grid	Grid Opening	ning Structure No. of Struct		ructures	Dime	nsions	Identification	Mineral Class				1 = y	es, blank	= no
Und	Ond Opening	Туре	Primary	Total	Length	Width	identification	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	H4-6	MD												
	64-6	M												
	F4-6	M		Pre	A: -	75%	intact	15-20	God	ekn	8			
	E4-6	M		Pie	oΒ;	40 8	intact		10 1	26,5				
	C4-6	MD												
B	646	M				7	٠							
	F4-6	MD			X									
	E4-6	M						·						
	C4-60	ay												
						:								

#### Analytical Procedures - AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber: is a structure having a minimum length greater than or equal to 0.5

micron with an aspect ratio of 5:1 or greater with substantially parallel

sides.

Bundle: is a structure composed of three or more fibers in parallel arrangement,

with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

Matrix: is a fiber or fibers with one end free and the other end embedded or

hidden by a particulate. The exposed fiber end must meet the fiber

definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

#### **Equations Used for Calculations**

Area Analyzed, rtun² = # GO counted x Average GO Area (mm)

Concentration,  $s/cc = \frac{\text{\# Asbestos Structures}}{\text{\# GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2)}{\text{Average GO area (mm}^2)} \times \frac{1L}{1000cc}$ 

Filter loading, s/mm² = # Asbestos structures Area Analyzed (mm²)

GO = TEM grid opening



February 14, 2012

Laboratory Code:

RES

Subcontract Number:

NA

Laboratory Report: Project # / P.O. # RES 229595-1 None **G**iven

Project Description:

3rd West Sub - RMP

Eldon Romney R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 229595-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described In this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except In full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer Orr

President

### RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

#### TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 229595-1

Client:

R & R Environmental

Client Project Number / P.O.: None Given

Client Project Description: Date Samples Received:

3rd West Sub - RMP

Analysis Type:

February 13, 2012

Turnaround:

TEM, AHERA

24 Hour

Date Samples Analyzed:

February 14, 2012

Client	Lab		Area	Air	Number of	Analytical	Asbestos	Filter
ID Number	ID N	umber	Analyzed	Volume Sampled	Asbestos Structures Detected	Sensitivity	Concentration	Loading
			(mm²)	(L)		(s/cc)	(s/cc)	(s/mm²)
3W-021012 SW	EM	863403	0.1000	878	ND .	0.0044	BAS	BAS
3W-021012 NW	EM	863404	0.1000	878	ND	0.0044	BAS	BAS
3W-021012 NE	EM	863405	0.1000	878	ND	0.0044	BAS	BAS
3W-021012 SE	EM	863406	0.1000	885	ND	0.0044	BAS	BAS
NA = Not Analyzed			Filter Materia	= Mixed Cellu	lose Ester		by Elisha Elemen	

ND = None Detected

BAS = Below Analytical Sensitivity

Average Grid Opening in mm² = 0.010

Filter Diameter = 25 mm

Effective Filter Area = 385 sq mm

DATA QA

Due Date:_	214-12
Due Time:	<b>25</b> 25~

RESERVOITS ENVIRONMENTAL, INC. e001 Logen St. Dreiver, CO 110218 - Ptr. 303 884-1986 - Fax 303-477-4275 - Toll Pree : 966 RESI-ENV Page 1 of Pager: 303-509-20Ma INVOICE TO: (IF DIFFERENT) **CONTACT INFORMATION:** Сопрвоу R& R travironmenta Addrass: 47W 9000 3 #2 Fax: Cell/pager. Project Number end/or P.O. #: Project Description/Location: 312 Was - Sub - RMP REQUESTED ANALYSIS ASBESTOS-LABORATORY HOURS: Weekdays: 7am - 7pm VALID MATRIX CODES LAB NOTES: RUSH (Same Day) PRIORITY (Next Day) Air = A Bulk = B (Rush PCM = 2hr, TEM = 6hr.) Paint = P Dust = D CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm Wipe = W Soil = S RUSH ___ 24 hr. ___ 3-5 Day F = Food Metal(s) / Dust Swab = SW **Prior notification is å Drinking Water = DW | Waste Water = WW RCRA 8 / Metals & Welding required for RUSH Point Count RUSH ___ 5 day ___ 10 day Fume Scan / TCLP O = Other ÷ 6 turnarounds.** "ASTM E1792 approved wipe media only" Organics 24 thr. ___ 3 day ___ 5 Day હું MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 8pm Level II, 7402, I ro-vac, ISO-Indir E.coli O157:H7, Coliforms, Saureus 24 hr. ___2 Day OSHA Salmonella, Listerle, E.coll, APC, Y & M 48 Hr. ___3-5 Day RUSH 24 Нг 48 Hr 3 Day 5 Day ORGANICS - METH "Turneround times astablish a laboratory priority, subject to laboratory volume and aro not guaranteed. Additional feet apply for effarhebrs, westrends and holidays." Special Instructions: EM Numbor (Laboratar (L) / Area Date Time Use Only) Collected Collected Client sample ID number (Sample ID's must be unique) hh/rnm s/p 210112 3W-021012 SW 3W-021012 NW Ø 1 878 05 3W-021012 NE 986 В 9 10 Number of samples received: (Additional samples shall be listed on attached long long.) NOTE: REI will energise incoming samples beset upon information received and will not be responsible for errors or omissions in calculations resulting from the inocorrect of original date. By signing client/company representative agrees that submission of the following samples for requested gnalysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may require to a 1.5% monthly interest surcharge Sample Condition: Relinquished By: Date/Time: On Ice Sealed Intact CYbs / No Laboratory Use Only Yes / No Temp. (F°) Yes / No 21312 4 **82**C Date/Time: Received By: Results: Phone Email Fax Date Time Initials Contact Date Time Initials Hhone Email Fax Contact Initials Contact Phone Popul Fax Date Time Initials **r**Phone Email Fax Date Time Contact

> 875 6/02 4,750 7-2011_version 1



February 15, 2012

Laboratory Code:

RES

Subcontract Number:

NA

Laboratory Report: Project # / P.O. #

RES 229701-1 None Given

**Project Description:** 

3rd West Sub - RMP

David Roskelley R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 229701-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer Orr

President

#### RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101899-0; TDH: #30-0015

#### TABLE 1. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 229701-1

Client:

R & R Environmental

Client Project Number / P.O.: None Given Client Project Description:

3rd West Sub - RMP

Date Samples Received:

February 14, 2012

Analysis Type:

TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

February 15, 2012

Client	Lab		Area	Air	Number of	Analytical	Astrestos	Filter
ID Number	ID N	ımber	Analyzed	Volume Sampled	Asbestos Structures Detected	Sensitivity	Concentration	Loading
			(mm²)	(L)		(s/cc)	(s/cc)	(s/mm²)
3W-021112 W	EM	863935	0.0800	1087	ND	0.0044	BAS	BAS
3W-021112 N	EM	863936	0.0800	1085	1	0.0044	0.0044	12.5
3W-021112 E	EM	863937	0.0800	1083	ND	0.0044	BAS	BAS
3W-021112 S	EM	863938	0.0800	1083	ND	0.0044	BAS	BAS

NA = Not Analyzed

Filter Material = Mixed Cellulose Ester

ND = None Detected

Filter Diameter = 25 mm

BAS = Below Analytical Sensitivity

Effective Filter Area = 385 sq mm

Average Grid Opening in mm² = 0.010

DATA QA

#### RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

#### TABLE II. SUMMARY OF ANALYTICAL DATA

**RES Job Number:** 

RES 229701-1

Client:

R & R Environmental

Client Project Number / P.O.: None Given

Client Project Description: Date Samples Received:

3rd West Sub - RMP

February 14, 2012

Analysis Type:

TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

February 15, 2012

Client ID Number	Lab ID No	umber	Asbestos Mineral	Asl	oestos Str	ucture Ty	pes*	Structures >5 Microns in Length	**Excluded Structures	<ul> <li>Asbestos</li> <li>Structures</li> <li>for</li> </ul>
				Fibers	Bundles	Clusters	Matrices	•		Concentration
3W-021112 W	EM	86393 <b>5</b>	ND	0	0		) 0	0	0	
3W-021112 N	EM	863936	Chrysotile	1	0	C	0	0	0	1
3W-021112 E	EM	86393 <b>7</b>	ND	0	0		0	0	0	0
3W-021112 S	EM	863938	ND	0	0	0	) 0	0	0	0

^{*}See Analytical Procedure for definitions

^{**}C = Excluded from total due to lack of confirmation

^{**}L = Excluded from total for length less than 0.5 micron (AHERA only)

^{**}A = Excluded from total due to i noorrect aspect ratio

ND = None Detected

Due Date: 2 · (5 · ) 2
Due Time: 106

# REILAB RESERVOIRS ENVIRONMENTAL, INC.

RES 229701

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Address: 47 W 912 Sandy W									bx:							<del></del> -			Fax:						
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# **Attachment I**

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

### Asbestos Type

### Structure Types

Α	=	Amosite	F =	Fiber
An	=	Anthophyllite	B =	Bundle
C	=	Chrysotile	C =	Cluster
Cr	=	Crocidolite	M =	Matrix
Т	=	Tremolite		

ND = no structures detected

M = other structure associated with a matrix

NAM = Non Asbestos Mineral

XGB = partly obscured by a grid bar

### Sizing Conversion

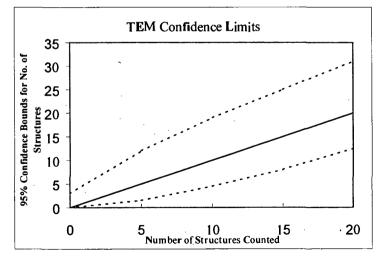
1 length unit = 5 mm on screen = 0.278 micron 1.80 length units = 0.5 micron

18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

#### **TEM Analysts**

Jeanne S. Orr Nathan DelHierro Angela Heitger Jonathan Bernard Paul D. LoScalzo Mark Steiner Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Laboratory name:	REI
Instrument	JEOL 100 CX (N) S
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid opening area (mm2)	0.011
Scale: 1L=	0.28 um
Scale: 1D =	0.056 um
Primary fitter area (mm2)	385
Secondary Filter Area (mm2)	<b>多是是多数的</b>
QA Type	

Client:	RAL
Sample Type (A=Alr, D=Dust):	A
Air volume (L) or dust area (cm2)	1087
Date received by lab	2/4/2
Lab Job Number: 🗻	224 70¢
Lab Sample Number:	863935

Scope Alignment	Date Analyzed
Grid storage location	Month Analyzed
Counting rules (ISO, AHERA, ASTM)	44
Method (D=Direct, t=Indirect, iA=Indirect, ashed)	
Analysis date	2 (5/12
Analyzed by	JB.

	F-Factor Calculation (Indirect Pre	eps Only):
4	Fraction of primary filter used	
F	Total Resuspension Volume (ml)	
Ī	Volume Applied to secondary filter (ml)	,

Grid	Grid Opening	Structure	No. of St	ructures	Dimensions		Identification	Mineral Class				1 = yes, blank = no		
Ond	Chd Opening	Туре	Primary	Total	Length	Width	Tagricino da la company	Amphibole	С	NAM_	Sketch/Comments	Sketch	Photo	EDS
A	H5-4	ND												
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Laboratory name:	REI
Instmment	JEOL-100 CX (N) S
Voltage (KV)	100 KV
Magnification	20KX 10KX 45
Grid opening area (mm2)	0.011
Scale: 1L=	0.28 um
Scale: 1D =	0.056 Jm
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	III RAPA
Sample Type (A=Alr, D=Dust):	附着克塔
Air volume (L) or dust area (cm2)	Hogan
Date received by lab	製品社员
Lab Job Number:	229 400
Lab Sample Number:	1903AB7

Scope Alignment	Oata Analyzed
Grid storage location	Month Analyzed
(Counting rules (ISO, AHERA, ASTM)	44
Method (D=Direct, l=Indirect, IA=Indirect, ashed)	
Analysis date	支陽陽
Analyzed by	P TB

F-Factor Calculation (Indirect Pr	eps Only):
Fraction of primaty filter used	
Total Resuspension Volume (mi)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure	No. of St	ructures	Dime	nsions	Identification	Mineral Class				1 = y	es, blank	= no
		Туре	Primary	Total	Length	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	K4-1	ND												
	H4-1	Ē		(	2	(	CD		<b>V</b>		\			
	K54	w												
L	H5-4	ND				Kys	Ay	B-70	-/ cy	Lin	4 5% a	elors	·	
B	HZ-1	ND				,				/	,			
	(2-1	ND							1	2/13	/12			
	E43	S						/	//	/ /				
	C4-3	ND					<u>.</u>	/	<u> </u>					
						• 								

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Laboratory name:	REI
Instrument	JEOL 100 CX (N) S
Vollage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm2)	10011 M
Scale: 1L =	0.28 um
Scale: 1D =	्राष्ट्रीहरू जेवा है। विकास करा के किस करा करा करा करा करा करा करा करा करा करा
Primary filter area (mm2)	<b>10.000 385 353 353</b> 363 363 363 363 363 363 363 363 363 3
Secondary Filter Area (mm2)	
QA Type	<b>拉斯斯斯斯斯斯</b>

Client:	138461
Sampio Type (A=Alr, D=Dust):	AND A
Air yolume (L) or dust area (cm2)	进68多点
Date received by lab	沙/法律的
Lab Job Number:	1224 130
Lab Sample Number:	203937

Scope Alignment	Date Analyzed
Grid storage location	Month Ahalyzed
Counting rules (ISO, AHERA, ASTM)	44
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	
Analysis date	2 5/2
Analyzed by	78

F-Facfor Calculation (Indirect P	reps Only):
Fraction of primary filtar used	
Total Resuspension Volume (mi)	
Volume Applied to secondary filter	

Grid	Grid Opening	Stmcture	No. of Stru	ıctures	Dimer	nsions	Identification	Mineral Class				1 = y	es, blank	≖ no
		Туре	Primary	Total	Length	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	K4-1	ND						·						
	H4-1	ND				Pno	A	80% int	mf		% Jehns	,		
	64-1	ND			A	) T	B	90 choint		5	hidelors			
	F4-1	ND							16					
3	H310.	MD					,	4	B :	2/15/1	*			
	636	M				'			,	<i>  ' </i>  '.				
	F3-4	<b>M</b>		.				,						
	E3-6	<b>₹</b>												
						·								

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	一、とのでは、中央の一般をおりませんという。
Laboratory name:	REI
Laboratory name:	and the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second s
	THE PROPERTY OF
Instrument	JEOL 100 CX (N S
	100 KV
Voltage (KV)	「新式中部100 KV 是黑胸語
Maanification	20KX 10KX
Grid opening area	PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTITION OF THE PARTIT
(mm2)	0.011
Scale: 1L=	0.28 um
Ocaio. IL	
Cooley 4D =	0.056 um
Scale: 1D =	
Primary filter area	<b>建筑的建筑地区外的建筑</b>
(mm2)	385
Secondary Filter Area	
(mm2)	<b>製造機能調整機能以及</b>
	THE PROPERTY OF THE PARTY OF TH
QA Type	上 等

Client :	18 (44C 11)
Sample Tyoe (A=Air, D=Dust):	自由
Air yolume (L) or dust area (cm2)	<b>排68</b> 吃品
Date received by lab	2/2/2
Lab Job Number:	224 100
Lab Sample Number:	903938

Analyzed by	3.78
Analysis date	21812
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	
Counting rules (ISO, AHERA, ASTM)	ACC
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Pr	eps Only):
Fraetion of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class				1 = yes, blank = no		
			Primaty	Total	Length	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	H5-1	GW						·						
	615-1	W				Pus	A	90 Lunh	nf	<u> </u>	La delms	-		
	F5-1	NĎ			,	Rux	B	90 % int	mt	_5	% delays			
	E5-1	ND			`			1h .				:		
15	63-6	ND			•		1	B2/15/12						
	T-3-6	M						//	•					
	E3-6	ND					. /							
	C3-6	ND								<u>.</u> .	}			

### Analytical Procedures - AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber: is a structure having a minimum length greater than or equal to 0.5

micron with an aspect ratio of 5:1 or greater with substantially parallel

sides.

**B**undle: is a structure composed of three or more fibers in parallel arrangement,

with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

Matrix: is a fiber or fibers with one end free and the other end embedded or

hidden by a particulate. The exposed fiber end must meet the fiber

definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

#### Equations Used for Calculations

Area Analyzed,  $mun^2 = \# GO \text{ counted } x \text{ Average } GO \text{ Area } (mm)$ 

Concentration,  $s/cc = \frac{\text{\# Asbestos Structures}}{\text{\# GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2)}{\text{Average GO area (mm}^2)} \times \frac{1L}{1000cc}$ 

Filter loading,  $s/mm^2 = \frac{\# Asbestos structures}{Area Analyzed (mm^2)}$ 

GO = TEM grid opening